the complete demonstration, is the following: "No power, beyond the second degree, of any quantity, can exist, capable of being resolved into the sum, or the difference, of two other powers of the same degree:" or, as it may still more generally be expressed, "If the exponents of three powers be multiplied by the same number, provided that number be greater than 2, neither the sum, nor the difference, of any two of the resulting quantities can ever be equal to the third quantity."

It was resolved unanimously,—"That the thanks of this Society be given to their Secretary John George Children, Esq., for the zeal and ability which he has uniformly displayed, and the many valuable services he has rendered, in promoting its objects."

December 17, 1835.

SIR JOHN RENNIE, Knt., Vice-President in the Chair.

"Researches towards establishing a theory of the Dispersion of Light, No. II." By the Rev. Baden Powell, M.A., F.R.S., Savilian Professor of Geometry in the University of Oxford.

The author, in a preceding paper, published in the last part of the Philosophical Transactions, commenced a comparison between the results of M. Cauchy's system of undulations, expressing the theoretical refractive index for each of the standard rays of the spectrum, and the corresponding index found from observation in different media. Since that paper was communicated, he has received the account of a new series of results obtained by M. Rudberg, and comprising the indices for the standard rays in a prism of calcareous spar, and in a prism of quartz, both for the ordinary and the extraordinary rays; and also the ratios of the velocities in the direction of the three axes of elasticity, respectively, in Aragonite and Topaz. The author was accordingly led to examine this valuable series of data, and the comparison of them with the theory forms the subject of the present paper. He finds the coincidences of theory and observation to be at least as close as those already obtained from Frauenhofer's results, and to afford a satisfactory extension of the theory to ten new cases, in addition to those already discussed; and a further confirmation of the law assigned by the hypothesis of undulations.

A paper was in part read, entitled, "On the action of Light upon Plants, and of Plants upon the Atmosphere." By Charles Daubeny, M.D., F.R.S., Professor of Chemistry and of Botany in the University of Oxford.

The Society then adjourned over the Christmas Vacation to meet again on the seventh of January next.